

CLAIMS

1. A gas filling device for filling plurality of tires with gas, the gas filling device comprising:

5 a gas supply source;

a plurality of pressure regulators connected to the gas supply source, wherein each pressure regulator sets the pressure of gas supplied from the gas supply source to a predetermined target pressure; and

10 a plurality of gas chucks, wherein each gas chuck is connected to one of the pressure regulators and a tire, wherein each gas chuck permits gas to be supplied to the connected tire so that the pressure of the tire becomes the target pressure set by the corresponding pressure regulator.

15 2. The gas filling device according to claim 1, wherein each gas chuck has a fitting portion that is fitted to a tire valve located on the corresponding tire.

20 3. The gas filling device according to claim 2, wherein the fitting portions of at least two of the gas chucks have different forms or sizes such that the fitting portions can be fitted to different kinds of tire valves.

25 4. The gas filling device according to claim 2, wherein the fitting portion of each gas chuck has a cylindrical receiving portion to receive a tire valve.

30 5. The gas filling device according to claim 4, wherein the cylindrical receiving portions of the fitting portions of at least two gas chucks have different inner diameters or depths such that the cylindrical receiving portions can be fitted to different kinds of tire valves.

35 6. The gas filling device according to claim 4, wherein a

sealing member is located in the cylindrical receiving portion of each gas chuck, wherein, when the fitting portion is fitted to a tire valve, the sealing member seals between the tire valve and the fitting portion.

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7. The gas filling device according to claim 1, further comprising a plurality of tube bodies, wherein the tube bodies extend from the gas supply source and permit gas to pass through, wherein each pressure regulator is located in one of the tube bodies, and wherein each gas chuck is provided at a distal end of one of the tube bodies.

8. An air filling device for filling plurality of tires with air, the air filling device comprising:

15 an air compressor;

a plurality of pressure regulators connected to the air compressor, wherein each pressure regulator sets the pressure of gas supplied from the gas supply source to a predetermined target pressure; and

20 a plurality of air chucks, wherein each air chuck is connected to one of the pressure regulators and a tire, wherein each air chuck has a passage for permitting the flow of air, wherein each air chuck permits gas to be supplied to the connected tire so that the pressure of the tire becomes
25 the target pressure set by the corresponding pressure regulator.

9. The air filling device according to claim 8, wherein each air chuck has a fitting portion that is fitted to a tire valve located on the corresponding tire.

10. The air filling device according to claim 9, wherein the fitting portions of at least two of the air chucks have different forms or sizes such that the fitting portions can be
35 fitted to different kinds of tire valves.

11. The air filling device according to claim 9, wherein the fitting portion of each air chuck has a cylindrical receiving portion to receive a tire valve.

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12. The air filling device according to claim 11, wherein the cylindrical receiving portions of the fitting portions of at least two air chucks have different inner diameters or depths such that the cylindrical receiving portions can be fitted to different kinds of tire valves.

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13. The air filling device according to claim 11, wherein a sealing member is located in the cylindrical receiving portion of each air chuck, wherein, when the fitting portion is fitted to a tire valve, the sealing member seals between the tire valve and the fitting portion.

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14. The air filling device according to claim 8, further comprising a plurality of tube bodies, wherein the tube bodies extend from the air compressor and permit air to pass through, wherein each pressure regulator is located in one of the tube bodies, and wherein each air chuck is provided at a distal end of one of the tube bodies.

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